

REMARKS

At the time of examination claims 1-28 were pending. With this amendment, claims 1, 2, 6, 7, 11, 22, 25 and 27 have been canceled. The rejection of these claims has been rendered moot.

Claim 3 was indicated as being allowable. Claim 3 has been rewritten in independent form. The scope of rewritten claim 3 is broader in one aspect, in that the recitation "generally orthogonal" that was in claim 2 has been changed to "incident". Based upon the art applied and explanations in the office action, it is believed that claim 3 is now in condition for allowance.

Claim 5 was indicated as being allowable. Claim 5 has been rewritten in independent form. As with claim 3, the recitation "generally orthogonal" has been changed to "incident". Claim 5 is believed to be in condition for allowance.

Claim 8 is indicated as being allowable. Claim 8 has been rewritten in independent form. The scope of rewritten claim 8 is broader in one aspect. Namely, the recitation "generally parallel to large faces of said crystal sheets" has been changed to "incident to the end faces of said crystal sheets". Based upon the art and the office action, claim 8 as rewritten is believed to be allowable.

Claim 12 has been rewritten in independent form. Claim 12 was rejected under § 102 in view of Stettner. The rejection is respectfully traversed. Fig. 3A of Stettner shows a multi-layer detector array. Fig. 3B of Stettner shows an individual subsensor assembly 13 that is used to form the multi-layer detector array shown in Fig. 3A. The subsensor includes a PCB 21, a silicon or sapphire substrate 20, a detector array 18, an amplifier array 16 and a scintillator slab 15. In the invention of claim 12, a high sensitivity radiation imaging device is defined. According to claim 12, the intervening semiconductor photodetector positional detectors have a thickness of less than or equal to 300 micrometers. The office action points to column 4, lines 19-28. There, it is stated that the microchannel plate and anode combinations of Stettner have a thickness that is 0.2 to 0.3 centimeters. This is ten times the thickness defined in the claims. 0.2 to 0.3

centimeters is 2000 to 3000 micrometers. The invention as defined in claim 12 is neither disclosed nor suggested by Stettner.

Claim 15 has been rewritten in independent form and amended. As amended, claim 15 requires that the semiconductor be formed directly on the crystal sheets, which form a substrate. This is described, for example, on page 9, lines 9-19 of the specification. This provides for a very high sensitivity detector. This is not disclosed by Stettner. As seen in Fig. 3B, the detector array 18 is part of a multi-layered structure and is formed between a silicon or sapphire substrate 20 and the microchannel plate amplifier array 16. According to the invention of claim 15, very high sensitivity devices may be realized because of the formation of semiconductors photodetectors directly on the crystal sheets.

Claim 16 has been rewritten in independent form and amended. In amended claim 16, the semiconductor photodetectors are each supported by a thin ceramic substrate. This embodiment is also discussed on page 9. It is not disclosed by Stettner. The Stettner structure includes a crystal sheet 15, the microchannel plate amplifier array 16, the detector array of anodes 18 and a silicon or sapphire substrate 20, as well as a printed circuit board 23. The thin ceramic substrate defined in the claims permits a high resolution radiation imaging device. No comparable arrangement is disclosed or suggested by Stettner.

Claim 23 has been rewritten in independent form. Claim 23 requires that the semiconductor photodetector positional arrays have a thickness of less than or equal to 300 micrometers. As discussed above, the microchannel plate and anode combinations in Stettner are 2000 to 3000 micrometers thick.

Claim 24 has been rewritten in independent form. Claim 24 had been indicated as allowable. The amendment places the claim in condition for allowance.

Claim 26 has been rewritten in independent form and amended. In claim 26 the semiconductor photodetectors are supported by a thin ceramic substrate. As discussed above, Stettner discloses a multi-layer structure that includes a silicon or sapphire

substrate 20 in a printed circuitboard 21. The invention of claim 26 is neither disclosed nor suggested by Stettner.

Claim 28 has been rewritten in independent form. This claim was rejected based upon Stettner. The rejection is respectfully traversed. In applying Stettner to claim 28, Figs. 3A and 3B and 4A of Stettner are indicated as disclosing the features of claim 28. Claim 28 requires the semiconductor photodetector positional detectors to be formed directly on corresponding large faces of the scintillation crystal sheets. As discussed above, Stettner has a detector array of anodes 18 that is formed on a silicon or sapphire substrate 20 and is separated from a scintillator crystal slab by an amplifier array 16. The invention in claim 28 provides a very high sensitivity radiation imaging device. Claim 28 is neither disclosed nor suggested by Stettner.

For all of the above reasons, reconsideration and allowance of the application is requested. Should the examiner have any questions or wish to discuss the instant application, the examiner is invited to contact the undersigned attorney at the below listed number.

Respectfully submitted,

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